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CHANDRASEKHAR, PRANAV	
ART UNIT	**PAPER NUMBER**
2115	7

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/837,626	Applicant(s) FRANK, ANDREW	
	Examiner Pranav Chandrasekhar	Art Unit 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 27 recites the limitation "switch" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 52 and 53 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Dickens et al [US Pat No. 6,549,966].

3. As per claim 52, Dickens teaches

an upstream connector for connecting to a computer [105 Fig 1] a Universal Serial Bus (USB) using a USB protocol [106 Fig 1], wherein the device [100 Fig 1] is external to the computer [col. 5 lines 26-31];

a PCI bus structure having a PCI protocol [100 Fig 1; 132 Fig 2; col. 6 lines 32-33];

a bus control module connected to the upstream connector [100 Fig 1] and to the PCI bus structure wherein the bus control module is adapted to provide a protocol conversion between the USB protocol and the PCI bus protocol [col. 6 lines 59-64. The data converter 120 is indirectly connected to the upstream connector based on Fig 1.]; and

a master slot and at least one slave slot connected to the PCI bus structure [154 and 156 Fig 2; col. 6 lines 58-64. The slots through which devices 180 and 182 are connected to the bus 132 are viewed as a master slot and slave slot.]

4. As per claim 53, Dickens teaches

providing a PCI bus structure in a device [100 Fig 1; 132 Fig 2] external to a computer[105 Fig 1], wherein the PCI bus structure has a PCI bus protocol [col. 6 lines 59-64];

providing a master expansion slot and at least one slave expansion slot connected to the PCI bus structure [154 and 156 Fig 2; col. 6 lines 58-64. The slots through which devices 180 and 182 are connected to the bus 132 are viewed as a master expansion slot and slave expansion slot.];

using a USB protocol to communicate between the device and the computer [106 Fig 1; col. 5 lines 26-31]; and

converting the USB protocol to the PCI bus protocol [col. 6 lines 59-64].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-23 and 27-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickens et al [US Pat No. 6,549,966] in view of Comer [US Pat No. 6,081,856].

6. As per claim 1, Dickens teaches a device comprising

a backplane with an upstream connector for connecting with a computer [105 Fig 1] via a serial bus [106 Fig 1; col. 5 lines 26-31. The computer data converter is an integral part of the device and is hence connected to the computer via the serial bus.], wherein the device [100 Fig 1] is external to the computer [105 Fig 1].

Dickens does not explicitly teach at least one expansion card for coupling with the expansion slot, the expansion card including at least one port to provide an interface with the computer.

Comer teaches

at least one expansion card for coupling with the expansion slot, the expansion card including at least one port to provide an interface with the computer [col. 12 lines 32-34].

It would have been obvious to one skilled in the art to combine the teachings of Dickens and Comer to incorporate an expansion card along with a corresponding expansion slot within an external device to facilitate the expansion of the capabilities of the computer by providing an interface to the computer for peripheral devices.

7. As per claim 13, Dickens teaches

a control module [100 Fig 1]; and

a hub for providing USB/USB+ outputs, the hub being coupled to the control module [col. 6 lines 17-28].

Dickens does not explicitly teach an external functions unit for providing outputs, the external functions unit being coupled to the hub.

Comer teaches an external functions unit [10 Fig 3] for providing outputs wherein the external functions unit is coupled to a computer's expansion slot [col. 12 lines 32-40].

It would have been obvious to one skilled in the art to combine the teachings of Dickens and Comer to incorporate an external functions unit to the hub for providing USB/USB+ outputs to facilitate serial communication of peripheral devices with a host computer.

8. As per claim 14, Dickens further teaches the control module [100 Fig 1] including a port for providing a serial communication link [106 Fig 1] to a computer [105 Fig 1;col. 5 lines 26-31].

9. As per claim 15, Dickens further teaches the communication link including a USB link [106 Fig 1].

Dickens and Comer do not explicitly teach the communication link including power.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to enable the communication link to include power so as to serve as a power line for power supply to the computer.

10. As per claim 43, Dickens teaches

providing a serial communication link [106 Fig 1] to the computer [105 Fig 1]; and

providing a device [100 Fig 1] for coupling to the serial communication link, including:

providing a backplane with an upstream connector for coupling to the serial communication link [col. 5 lines 26-31].

Dickens does not explicitly teach an expansion card coupled to an expansion slot, including providing at least one port as an interface for the computer.

Comer teaches

at least one expansion card for coupling with the expansion slot, the expansion card including at least one port to provide an interface with the computer [col. 12 lines 32-34].

It would have been obvious to one skilled in the art to combine the teachings of Dickens and Comer to incorporate an expansion card along with a

corresponding expansion slot within an external device to facilitate the expansion of the capabilities of the computer by providing an interface to the computer for peripheral devices.

11. As per claim 32, Dickens teaches

a legacy free personal computer [105 Fig 1];

a housing containing a bus monitor control module [100 Fig 1] and a USB/USB+ hub [col. 6 lines 17-28]; and

a serial bus [106 Fig 1] coupling the PC to the bus monitor and control module [100 Fig 1. The device 100 is viewed as containing the bus monitor and control module].

Dickens does not explicitly teach the housing containing an uninterruptible power supply and an external functions unit.

Comer teaches an external functions unit [10 Fig 3; col. 12 lines 32-40].

Comer does not explicitly teach an uninterruptible power supply.

It would have been obvious to one skilled in the art to combine the teachings of Dickens and Comer to incorporate an external functions unit to the hub for providing USB/USB+ outputs to facilitate serial communication of peripheral devices with a host computer. Furthermore, the addition of an uninterruptible power supply would be an obvious modification to the existing system since it is well known in the art as a device for filtering, enhancing or modifying utility power as well as preventing the computer from losing power during a power disruption or voltage sag.

12. As per claim 33, Dickens further teaches the bus to be a Universal Serial Bus [106 Fig 1; col. 5 lines 26-31].

13. As per claim 34, Dickens and Comer do not explicitly teach the bus monitor and control module distributing direct current (DC) power to the PC over the bus.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to enable the bus monitor and control module to distribute current (DC) power to the PC over the bus since it would be advantageous to utilize the control module as a power source for the PC.

14. As per claims 16 and 35, Dickens and Comer do not explicitly teach the control module for providing UPS status and control communication.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to enable the control module to provide UPS status and control communication because it would be advantageous to inform the computer to which the device is connected of the power status of the devices connected to the computer via a port for UPS status.

15. As per claims 2 and 45, Dickens and Comer do not explicitly teach the expansion card including at least one USB+ port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a USB+ port in the expansion card since a USB+ port is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for a plurality of peripheral devices to connect to the computer.

16. As per claims 3 and 44, Dickens and Comer do not explicitly teach the expansion card including at least one USB port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a USB port in the expansion card since a USB port is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for a plurality of peripheral devices to connect to the computer.

17. As per claims 4 and 46, Dickens and Comer do not explicitly teach the expansion card including at least one serial port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a serial in the expansion card since a serial port is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for peripheral devices to connect to the computer.

18. As per claims 5 and 47, Dickens and Comer do not explicitly teach the expansion card including at least one parallel port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a parallel port in the expansion card since a parallel port is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for peripheral devices to connect to the computer.

19. As per claims 6 and 48, Dickens and Comer do not explicitly teach the expansion card including at least one application specific port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate an application specific port in the expansion card

since application specific ports are well known in the art and are used to provide expansion capabilities to a computer by providing an interface for peripheral devices associated with specific applications to connect to the computer.

20. As per claim 7, Dickens and Comer do not explicitly teach the expansion card including

at least one USB+ port;

at least one RS232 serial port; and

at least one IEEE 1284 parallel port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a USB+ port, RS232 serial port and IEEE 1284 parallel port in the expansion card since the ports are well known in the art and are used to provide expansion capabilities to a computer by providing an interface for peripheral devices to connect to the computer.

21. As per claims 8 and 50, Dickens and Comer do not explicitly teach the expansion card including at least one modem connector.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a modem connector in the expansion card since a modem connector is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for a modem to the computer.

22. As per claims 9 and 51, Dickens and Comer do not explicitly teach the expansion card including at least one network connector.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a network connector in the expansion card since a network connector is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for a computer to connect to a network.

23. As per claims 10 and 49, Dickens and Comer do not explicitly teach the expansion card including at least one Interact Connector.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate an Interact Connector in the expansion card since an Interact Connector is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for peripheral devices to connect to the computer.

24. As per claim 11, Dickens further teaches the backplane including a master slot coupled to at least one slave slot via a communication link [col. 5 lines 22-25. The peripheral data converter of the backplane is viewed as containing a master slot connected to the slave slot to which a peripheral device is connected wherein the master slot and slave slot are linked by a communication link].

25. As per claim 12, Dickens and Comer do not explicitly teach a port for providing UPS status and control communication.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a port for providing UPS status and control communication because it would be advantageous to inform the computer to which the

device is connected of the power status of the devices connected to the computer via a port for UPS status.

26. As per claims 17 and 37, Dickens and Comer do not explicitly teach the external functions unit including at least one serial port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a parallel port in the external functions unit since a seriall port is well known in the art and is used to provide expansion capabilities to a computer by providing an interface for peripheral devices to connect to a computer.

27. As per claims 18 and 38, Dickens and Comer do not explicitly teach the external functions unit including at least one parallel port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a parallel port in the external functions unit since parallel ports are well known in the art and are used to provide expansion capabilities to a computer by providing an interface for peripheral devices to connect to the computer.

28. As per claims 19 and 40, Dickens and Comer do not explicitly teach the external functions unit providing at least one application specific control.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate an application specific port in the external functions unit since application specific ports are used to provide expansion capabilities to a computer by providing an interface for peripheral devices associated with specific applications to connect to the computer.

29. As per claims 20 and 39, Dickens and Comer do not explicitly teach the external functions unit providing at least one modem port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a modem port in the external functions unit since modem ports are used to provide expansion capabilities to a computer by providing an interface for modems to connect to the computer.

30. As per claims 21 and 41, Dickens and Comer do not explicitly teach the external functions unit providing at least one network port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a network port in the external functions unit since network ports are used to provide expansion capabilities to a computer by providing an interface for the computer to connect with a network.

31. As per claims 22 and 42, Dickens and Comer do not explicitly teach the external functions unit providing at least one Internet port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate an Internet port in the external functions unit since Internet ports are used to provide expansion capabilities to a computer by providing an interface for the computer to connect with the Internet.

32. As per claim 23, Dickens and Comer do not explicitly teach an uninterruptible power supply (UPS) coupled to and controlled and monitored by the control module.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a UPS coupled to and controlled by the control

module because it would be advantageous to externally incorporate a power supply along with the control module.

33. As per claim 27, Dickens and Comer do not explicitly teach the bus control module being coupled to monitor subunits of the UPS and controls the switch.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to enable the bus control module to monitor subunits of the UPS and control the switch since it would be advantageous for a system to possess the capability of monitoring each subunit of a UPS independently.

34. As per claim 28, Dickens and Comer do not explicitly teach a plurality of switches being independently controlled by the bus control module to select which of a plurality of output lines are supplied power by the UPS.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a plurality of switches that are independently controlled by the bus control module to select output lines through which power is supplied by the UPS since it would be advantageous for a system to possess the ability to independently control output lines from a UPS.

35. As per claim 29, Dickens and Comer do not explicitly teach a housing containing the UPS, bus control module and the bus hub.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a housing to contain the UPS, bus control module and a bus hub in order to enable the components to be contained in a single unit.

36. As per claim 30, Dickens and Comer do not explicitly teach the housing including a plurality of expansion slots.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to include a plurality of expansion slots in the housing in order to possess the ability to accommodate a plurality of peripheral devices to be connected to the expansion slots.

37. As per claim 31, Dickens and Comer do not explicitly teach the housing including connection points for coupling an expansion module to the housing.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to include connection points for coupling an expansion module to the housing in order to enable further expansion capabilities to the control module.

38. As per claim 36, Dickens and Comer do not explicitly teach the hub providing at least one USB port and at least one USB+ port.

It would have been obvious to one skilled in the art to modify the teachings of Dickens and Comer to incorporate a USB+ port in the hub since a USB+ port and USB port are well known in the art and are used to provide expansion capabilities to a computer by providing an interface for a plurality of peripheral devices to connect to the computer.

39. Claims 24-26 are rejected under 35 U.S.C 103(a) as being unpatentable over Dickens et al [US Pat No. 6,549,966] in view of Comer [US Pat No. 6,081,856] as applied to claim 1 above, and further in view of Shinichi et al [US Pat No. 6,438,708].

40. As per claim 24, Dickens and Comer do not explicitly teach

an alternating current (AC) to direct current (DC) converter to receive an AC power signal from an external source;

a battery coupled to the AC/DC converter; and

a DC/DC converter to convert a DC signal of the AC/DC converter into at least a first predetermined voltage for use by a device external to the apparatus.

Shinichi teaches

an alternating current (AC) to direct current (DC) converter to receive an AC power signal from an external source [col. 11 line 64- col. 12 line 2; 57 Fig 6];

a DC/DC converter to convert a DC signal of the AC/DC converter into at least a voltage level for use by a device external to the apparatus [57 Fig 6; col. 11 line 64- col 12 line 2. The information processing apparatus 50 is external to the apparatus 57]

Shinichi does not explicitly teach

a battery coupled to the AC/DC converter; and

converting a DC signal to a predetermined DC voltage.

It would have been obvious to one skilled in the art to modify the teachings of Dickens, Comer and Shinichi to incorporate a UPS that converts an AC signal from an external source to a DC signal which is further regulated to a predetermined DC voltage to be supplied to the computer since this is an attribute of a UPS that is well known in the art. Furthermore, it would be obvious to include a battery as a backup power source.

41. As per claim 25, Dickens and Comer do not explicitly teach

a charger circuit coupled between the AC/DC converter and the battery to charge the battery from an incoming power signal; and

a power conditioning circuit coupled to the AC/DC converter to pass the incoming power signal through an output node.

Shinichi teaches a power conditioning circuit coupled to the AC/DC converter to pass the incoming power signal through an output node [57 Fig 6; col. 11 line 64- col. 12 line 2].

Shinichi does not explicitly teach a charger circuit coupled between the AC/DC converter and the battery to charge the battery from an incoming power signal.

It would have been obvious to one skilled in the art to modify the teachings of Dickens, Comer and Shinichi to pass the incoming power signal through an output node and incorporate a charger circuit coupled between the AC/DC converter and the battery to charge the battery from an incoming power signal since it would be advantageous for the battery to be charged for purposes of backup.

42. As per claim 26, Dickens, Comer and Shinichi do not explicitly teach

a DC/AC inverter coupled to the battery; and

a switch coupled between the DC/AC inverter and the power conditioning circuit to select which of the battery and the power conditioning circuit can supply power to the output node.

It would have been obvious to one skilled in the art to modify the teachings of Dickens, Comer and Shinichi to incorporate a DC/AC inverter coupled to the battery and to utilize a switch to select either the power conditioning circuit or the battery to supply power to the output node since it would be advantageous to select between a primary power source (power conditioning circuit) or a backup power source (battery).

Conclusion

43. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav Chandrasekhar whose telephone number is 703-305-8647. The examiner can normally be reached on 8:30 a.m.-5:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 703-305-9717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

Pranav Chandrasekhar
May 17,2004

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